IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

Claims 1-5 (Cancelled).

6. (New) A multistage interference signal canceling apparatus that cancels interference from a directional array combined signal that is received by an array antenna and array combined on a directivity-by-directivity basis, said apparatus comprising:

an interference canceling unit for generating, at every stage, a replica signal of a user;

delay means for delaying, at a stage other than a final stage, a received signal by a processing time of the interference canceling unit;

canceling means for removing replica signals of all users from the received signal of each directivity, and obtaining a residual signal of the user;

adding means for adding the replica signal and the residual signal on a per user basis, and outputting the result to an interference canceling unit of a next stage,

wherein the interference canceling unit comprises:

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directivity selecting means for selecting the
directional array combined signal on a per path basis;

despreading means for detecting a correlation value
between the selected directional array combined signal and a
spreading code;

combining means for combining detected correlation
values to generate a combined value;

temporary determining means for temporarily determining
the combined value to generate a temporarily determined
value;

re-spreading means for re-spreading the temporarily
determined value to generate a re-spread signal;

dividing means for sorting re-spread signals for every
directivity, on a per path basis; and

adding means for adding the re-spread signals sorted
for every directivity to generate a replica signal.

7.   (New)   The interference signal canceling apparatus
according to claim 6, wherein said canceling means cancels
replica signals of other users from the directional array
combined signal.

8. (New) A base station apparatus having an array antenna and an multistage interference signal canceling apparatus that cancels interference from a directional array combined signal that is received by an array antenna and array combined on a directivity-by-directivity basis, said multistage interference signal canceling apparatus comprising:

an interference canceling unit for generating, at every stage, a replica signal of a user;

delay means for delaying, at a stage other than a final stage, a received signal by a processing time of the interference canceling unit;

canceling means for removing replica signals of all users from the received signal of each directivity, and obtaining a residual signal of the user;

adding means for adding the replica signal and the residual signal on a per user basis, and outputting the result to an interference canceling unit of a next stage,

wherein the interference canceling unit comprises:

directivity selecting means for selecting the directional array combined signal on a per path basis;

despreading means for detecting a correlation value between the selected directional array combined signal and a spreading code;

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combining means for combining detected correlation
values to generate a combined value;

temporary determining means for temporarily determining
the combined value to generate a temporarily determined
value;

re-spreading means for re-spreading the temporarily
determined value to generate a re-spread signal;

dividing means for sorting re-spread signals for every
directivity, on a per path basis; and

adding means for adding the re-spread signals sorted
for every directivity to generate a replica signal.

9.   (New)   An interference cancellation method for use in a
multistage interference cancellation apparatus that removes
interference from a directional array combined signal that is
received by an array antenna and array combined on a
directivity-by-directivity basis, said method comprising, in an
interference canceling unit, the steps of:

inputting a plurality of array combined signals subjected to
array combining on a directivity-by-directivity basis to select
an array-combined signal corresponding to a path;

detecting a correlation value between the selected array
combined signal and a spread code;

combining detected correlation values to generate a combined value;

temporarily determining the combined value to generate a temporarily determined value;

re-spreading the temporarily determined value to generate a re-spread signal;

sorting re-spread signals or every directivity, on a per path basis; and

adding the re-spread signals sorted for every directivity to generate a replica signal.